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August 2, 1999

Magalie Roman Salas
Secretary
Federal Communications Commission
445 Twelfth Street, S. W.
TW-A325
Washington, DC 20554

Re: Implementation of Sections 309(j) and
337 of the Communications Act of 1934 as Amended
WT Docket No. 99-87 - RM 9332

Dear Ms. Salas:

Transmitted herewith, on behalf of Mark IV Industries Ltd., by its attorneys, are an original and four copies of its Comments in the above-captioned matter.

In the event there are any questions or comments concerning this matter, please direct them to the undersigned.

Very truly yours,

George Y. Wheeler PC

George Y. Wheeler

Enclosures

cc(w/encl.) Gary D. Michaels - FCC

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended	)	WT Dkt. No. 99-87
	)	
Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies	)	RM-9332
	)	
Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHZ	)	

COMMENTS OF
MARK IV INDUSTRIES, LIMITED, I.V.H.S. DIVISION

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August 2, 1999

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Summary

In response to the Commission's Notice of Proposed Rulemaking, Mark IV Industries, Limited, I.V.H.S. Division comments regarding the implementation of the statutory changes in the Budget Act of 1997 in support of continued shared use licensing in the non-multilateration portions of the Location and Monitoring Service ("LMS") band, 902-904 MHZ and 909-921 MHZ. The public interest considerations on which the Commission originally based its decision in 1995 to adopt shared use licensing for non-multilateration LMS spectrum remain a compelling basis for retention of such licensing. Intelligent transportation infrastructure is being rapidly deployed and widely used for toll collection, commercial vehicle operations, traffic monitoring and international border clearance already fulfilling the Commission's expectations for this service. The local and state authorities who are licensees of intelligent transportation systems on non-multilateration LMS spectrum are in the process of completing, expanding and maintaining massive investment of public resources in these systems. They have legitimate expectations under established Commission policy, which the Commission should confirm in these proceedings, that they will be able to continue to rely on shared use licensing to complete, expand and maintain their systems. The Commission's statutory mandate under Section 309(j)(6)(E) of the Communications Act ("Act") to avoid mutual exclusivity and the Congressional policies on which the exemption of public safety radio services in Section 309(j)(2) of the Act was based provide additional support for retaining the benefits of shared use licensing for the state and local governmental licenses of intelligent transportation systems. Finally, the Commission has ample justification to conclude that under the Commission's current rules and policies, competitive bidding is not as efficient or fair a selection method as shared

use licensing for non-multilateration LMS spectrum considering the unique architecture, technology choice and substantial involvement of state and local governments as licensees in the deployment of intelligent transportation infrastructure.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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COMMENTS OF
MARK IV INDUSTRIES, LIMITED, I.V.H.S. DIVISION

Mark IV Industries, Limited, I.V.H.S. Division ("Mark IV") herewith, by its attorneys, files its comments in response to the Commission's Notice of Proposed Rulemaking (FCC 99-52) released March 25, 1999 in ET Docket No. 99-87 ("NPRM") with regard to the implementation of Sections 309(j) and 337 of the Communications Act of 1934, ("Communications Act")[1] as amended by the Balanced Budget Act of 1997.[2]

Specifically, Mark IV responds to the Commission's request for comment on the criteria to implement the statutory changes in the Budget Act of 1997 as applied to the non-multilateration portions of the Location and Monitoring Service ("LMS") band, 902-904 MHZ and 909-921 MHZ,[3] the development of licensing schemes and methodologies for such existing services, the possible

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1 47 USC § 309(j) and 47 USC §337.

2 Pub.L.No. 105-33, Title III, 111 Stat. 251 (1997).

3 Section 90.353(h) of the Commission's rules.

conversion of such shared use licensing to geographic licensing, as well as other issues.[4] Mark IV strongly opposes the use of competitive bidding selection in the licensing of non-multilateration LMS spectrum for Intelligent Transportation Systems/infrastructure.

Introduction

On September 16, 1997, the Commission released its Memorandum Opinion and Order and Further Notice of Proposed Rulemaking (FCC 97-305) on reconsideration of its LMS Report and Order in PR Dkt. No. 93-61 ("LMS Reconsideration Order") which established its licensing rules for the LMS service in the 902-928 MHZ band.[5] This order concluded intensive and at times contentious proceedings to establish shared use (non-exclusive) spectrum to implement Intelligent Transportation Systems ("ITS") under Subpart M of Part 90 of its rules.

The Commission stated in its LMS Report and Order:

> "It is expected that in the coming years both types of LMS systems will play an integral role in the development and implementation of the variety of advanced radio transportation-related services, known as 'Intelligent Vehicle Highway Systems' (IVHS) or 'Intelligent Transportation Systems' (ITS). The ITS is a collection of advanced radio technologies that promise to improve the efficiency and safety of our nation's highways, reduce harmful automobile emissions, promote more efficient energy use, and increase national productivity...It is estimated that ITS will help reduce air pollution caused by automobiles and will cut wasteful fuel consumption. Traffic congestion, which costs the United States $100 billion annually in lost productivity, will also be minimized by innovative ITS traffic management

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4 See NPRM, Paras. 23, 60, 64, 66 and 71.

5 Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, Report and Order, PR Dkt. 93-61, 10 FCC Rcd 4695 (1995) ("LMS Report and Order"), on reconsideration, 11 FCC Rcd 16905 (1996).

> technologies. Finally, ITS is expected to create new economic and employment opportunities."

In the less than four years since the adoption of the LMS Report and Order, the implementation of ITS infrastructure is already delivering the public benefits anticipated by the Commission.

Electronic toll collection ("ETC") systems have been widely implemented and are planned to be expanded in numerous states using LMS spectrum in the non-multilateration portions of the 902-928 MHZ band. Millions of vehicles are now equipped to pay tolls electronically on these systems. For example, the E-Z Pass℠ system[6] serving the northeastern part of the United States estimates that it currently has approximately 2 million customers and has approximately 3.1 million transponders. These numbers are expected to increase dramatically as public awareness of the E-Z Pass℠ system continues to grow and as E-Z Pass℠ lanes begin to be opened on the New Jersey Turnpike, the Garden State Expressway and the Pennsylvania Turnpike.

Additional toll systems which use Mark IV technologies in the 902-928 MHZ band include the Dulles Toll Road, the Greenway Toll Road and the Coleman Bridge in Virginia and the Orlando-Orange County Expressway, the Dade County Causeway in Florida, and the Illinois Tollway. Based on current estimates, these systems serve a combined total of 1.4 million transponders and 1.1 million customers.

Other significant uses of non-multilateration LMS spectrum include: Commercial Vehicle

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[6] The E-Z Pass℠ system includes the toll roads, bridges and tunnels of the following members of the E-Z Pass℠ Interagency Group ("IAG"): MTA Bridges & Tunnels, New York State Thruway Authority, Port Authority New York/New Jersey, New York State Bridge Authority, New Jersey Turnpike Authority; New Jersey Highway Authority, South Jersey Transportation Authority, Pennsylvania Turnpike Commission, Massachusetts Turnpike, Maryland Transportation Authority, Delaware Dept. of Transportation and Delaware River Port Authority.

Operations ("CVO") for electronic clearance of commercial vehicles which would otherwise be required to stop at state checkpoints to undergo routine weight, credential and safety checks;[7] traffic network performance monitoring ("traffic monitoring") systems being deployed to determine the occurrence and location of incidents and congestion on the nation's highways;[8] and systems at international border crossings for federal agencies and departments ("border clearance") to collect and to analyze data to permit clearance for commercial vehicles to pass across the border with minimal or no delay.[9]

Proposed Retention of "Shared Use" Licenses

As described above, the Commission's current review and evaluation of its existing licensing and service rules for the LMS service comes only a few years after the adoption of Subpart M of Part 90 of the Commission's rules in PR Dkt. No. 93-61. The expectations expressed in its LMS Report and Order to foster the rapid, efficient and cost-effective implementation of advanced ITS technologies is already being fulfilled. The deployment of ETC, CVO, traffic monitoring, border clearance systems, and other ITS systems has proceeded rapidly in many areas. Public acceptance of ETC systems has exceeded all initial projections. In the relatively short time these systems have been in place, they have come to be relied upon by millions of commuters and other highway users.

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[7] Examples of CVO systems include the HELP Inc. Prepass System in sixteen states serving approximately 80,000 commercial vehicles and the NORPASS system in six states serving approximately 10,000 additional commercial vehicles.

[8] Initial installations are in the process of being expanded on the toll roads comprising the E-Z Pass℠ system.

[9] Approximately 94,000 commercial vehicles are equipped with transponders to facilitate clearance at four international border crossing points.

Mark IV strongly supports retention of the existing "shared use" licensing scheme under Subpart M of Part 90 of the Commission's rules rather than shift to competitive bidding selection for non-multilateration LMS spectrum in consideration of the following:

- The well-documented public benefits from implementation of ETC, CVO, traffic monitoring, international border crossing and other ITS systems are ample justification for Commission public interest findings in support of this outcome.

- Existing licensees of publicly owned and controlled ETC, CVO and other ITS systems like the E-Z Pass℠ Interagency Group ("IAG") have legitimate expectations that they will be afforded continuing access to non-multilateration LMS spectrum under shared use licensing to complete, expand and maintain their extensive networks.

- The Commission's obligations "...to avoid mutual exclusivity in application and licensing proceedings" in Section 309(j)(6) of the Communications Act are also met by continued reliance on "shared use" licensing for the non-multilateration portions of the LMS band.

- The exception in Section 309(j)(2) for public safety radio services "...including private internal radio services used by state and local governments and non-government entities" from auction of licenses and construction permits is consistent with the retention of "shared use" licensing of non-multilateration LMS systems as proposed here.

- Imposition of competitive bidding selection for non-multilateration LMS services would impair or foreclose the Commission's goal to foster the growth of intelligent transportation services.

As discussed below, there are numerous compelling reasons for the Commission to retain the shared use licensing methodology here to foster the rapid, widespread and cost-effective availability of advanced LMS technologies being deployed by toll authorities, like the IAG members and others, to benefit highway users.

Discussion

1. Retention of Shared Use Licensing for the Non-multilateration Portion of the LMS Spectrum Will Foster the Rapid, Widespread and Spectrum Efficient Deployment of ITS Technologies to Benefit the Public.

The Commission stated less than two years ago with respect to the shared use licensing for non-multilateration LMS spectrum:

> "We continue to believe that the definition and technical specification of non-multilateration LMS systems adopted in the LMS Report and Order reflect a reasoned balancing of the interests of the various users of the 902-928 MHZ band, and no new information has been introduced into the record of this proceeding to persuade us otherwise...We believe that our requirements are most conducive to continued sharing of this band..."[10]

The public interest considerations on which the Commission based its decision to foster continued sharing in the non-multilateration portions of the LMS band to "...allow for the continued growth of LMS and "...advance Congress' goal of developing an intelligent transportation system infrastructure," remain a compelling basis for retaining shared use licensing as proposed here.

As discussed above, the continuing availability of non-multilateration LMS spectrum under shared use has made possible extensive deployments of ETC, CVO, traffic monitoring, border crossing and other ITS systems on a spectrum efficient basis while preserving a full range of technology choice. Broad public reliance on non-multilateration LMS systems which has developed in less than four years confirms that the shared use licensing under the Commission's current rules has effectively advanced "...the Congress' goal of developing an intelligent transportation system infrastructure."[11]

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[10] LMS Reconsideration Order, Para. 23.

[11] LMS Report and Order, Para. 99.

It is now anticipated that in the next few years, with the implementation of additional ETC systems, the number of vehicles served by non-multilateration LMS systems will continue to increase. Extensive new and expanded ETC systems are being implemented by IAG members which depend upon the continuing availability of the non-multilateration LMS spectrum so that all IAG member toll agencies can operate co-channel systems. In this regard, the Commission has already recognized the special needs of toll agencies to rely in some cases years in advance on the availability of vital spectrum resources for their new and modified ETC systems.[12] Commission retention of shared use licensing as requested here will preserve and foster the opportunities for these toll agencies to fulfill their multi-year implementation schedules.

The Commission also describes in its LMS Report and Order its goals to "...ensure that other users..., including Amateur operators and users of Part 15 devices, will be able to co-exist..."[13] Achieving this goal has been complicated by the fact that the band is allocated for multiple types of licensed and non-licensed uses in descending order of priority as follows:

- Federal government radiolocation systems.
- Industrial, Scientific and Medical (ISM).
- Federal government fixed and mobile systems.
- Licensed LMS (multilateration and non-multilateration) systems.
- Licensed Amateur radio operations.
- Unlicensed Part 15 devices.

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12 See Section 90.253(i) of the Commission's rules.

13 LMS Report and Order, Para. 99.

The shared use licensing structure adopted in the Commission's rules should be retained as an essential part of the complex balancing of the diverse needs and priorities among the foregoing user groupings.

The Commission's rules reflect the unique characteristics of non-multilateration LMS systems in that they cover relatively short distances and that they have access to a total of 14 MHZ of bandwidth. The non-exclusive shared use of LMS non-multilateration spectrum in Section 90.253(h) of the Commission's rules together with the Commission's height, power, bandwidth and frequency tolerance limitations in Sections 90.253(h), 90.205, 90.209 and 90.213 provide for effective spectrum reuse. The fact that ETC, CVO, traffic monitoring, border crossing and other ITS systems cover small isolated coverage areas, must be located at predetermined fixed points along highways and other thoroughfares and are not tied solely to metropolitan markets has not been a problem because of the flexibility of the current shared use site-by-site licensing.

The Commission's rules and policies also provide on a pro-competitive basis for multiple LMS technologies to be implemented by accommodating the different bandwidths and emissions of various manufacturers of LMS devices and multiple market entry opportunities in the same or geographically overlapping markets for LMS providers. Under current shared use licensing mechanisms, non-multilateration LMS licensees also can choose among a variety of technologies which employ different bandwidths, center frequencies and other parameters. Here again the flexibility inherent in shared use licensing has promoted service enhancements and other technology advances.

Preservation of shared use licensing is also needed to support continued development of integrated ETC systems such as those being developed by the IAG member toll agencies. The public

benefits from use of co-channel spectrum, standardized technologies and fully interoperable tags mean that transponders issued by one IAG member can be used to pay tolls owed for travel on a toll road operated by another IAG member. This seamless functionality significantly increases the economy and convenience of regional travel, promotes increased reliance on cost-effective electronic toll collection and has numerous other environmental, safety and other benefits. Here, as above, shared use licensing provides licensees flexibility to implement such systems with important added benefits to highway users.

2. The Commission Should Also Retain Shared Use Licensing to Support the Legitimate Expectations of Existing Licensees of Publicly Owned and Controlled ETC, CVO and Other ITS Systems to Complete, Expand and Maintain Their Networks.

The Commission should also take official notice of the vast scope of public resources already devoted to the implementation of the existing and planned infrastructures to support ETC, CVO and other ITS services on non-multilateration LMS spectrum and the widespread public reliance on these essential systems. This is a long-term investment of public resources affecting millions of highway users. The Commission should confirm the legitimate expectations of the numerous ETC and other ITS licensees to continue to complete, expand and maintain their 902-928 MHZ technologies under shared use licensing for as long as they deem appropriate to meet their responsibilities to the highway users.

The policy guidance articulated in the FCC staff report by Gregory Rosston and Jeffrey Steinberg, "Using Market-Based Spectrum Policy to Promote the Public Interest," released in January, 1997 is fully applicable here:

> "...[T]he Commission should exercise its jurisdiction to reallocate spectrum and change the rules governing use of spectrum with due regard for the reasonable expectations of incumbent licensees. No incumbent has a legitimate expectation of

> freedom from competition, but incumbents do expect that they will be able to continue using spectrum that they have been assigned without additional or unexpected interference, or major new service and technical restrictions."

The public benefits of providing such "certainty" to the licensees of ETC systems like IAG members are self-evident. The operation of such systems affecting millions of users daily is ultimately the responsibility of the numerous toll authorities who hold licenses for 902-928 MHZ LMS systems. The Commission should confirm that their right to continue to operate, expand and modify their authorized systems under existing shared use licensing procedures.

3. Retention of Shared Use Licensing for Non-multilateration LMS Systems is Consistent With the Commission's Obligations Under Section 309(j)(6) of the Act.

The Commission's obligations under Section 309(j)(6)(E) of the Act require that it avoid mutual exclusivity particularly for classes of frequencies within existing services such as the non-multilateration LMS services where non-exclusive shared use licensing has been successfully implemented.

The Commission's general authority to use competitive bidding selection in Section 309(j) of the Act is specifically limited by its obligations in Section 309(j)(6)(E) of the Act to avoid mutual exclusivity. As stated in the Conference Report for the Balanced Budget Act of 1997:

> "...[T]he conferees emphasize that, notwithstanding its expanded auction authority, the Commission must still ensure that its determinations regarding mutual exclusivity are consistent with the Commission's obligations under Section 309(j)(6)(E). The conferees are particularly concerned that the Commission might interpret its expanded competitive bidding authority in a manner that minimizes its obligations under Section 309(j)(6)(E), thus overlooking engineering solutions, negotiations, or other tools that avoid mutual exclusivity."[14]

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[14] See H.R. Conf. Rep. No. 105-217, 105th Cong., 1st Sess., at 572 (1997) ("Conference Report").

As explained in the Conference Report, the Commission is under no statutory compulsion to abrogate its existing rules providing for shared use licensing simply because it now has expanded auction authority.

In the case of existing service rules for non-multilateration LMS services, the Commission has ample justification under Section 309(j)(6)(E) to retain its existing shared use licensing scheme. Its rules governing non-multilateration LMS services have effectively fostered the "...continued growth of LMS services and...Congress' goal of developing an intelligent transportation system infrastructure" which were the Commission's goals for the adoption of those rules in the first place.[15] The record of rapid, widespread and cost-efficient deployment of advanced intelligent transportation systems described in the preceding sections of these comments is strong evidence of the success of the Commission's existing shared use approach.

4. Retention of Shared Use Licensing for Non-multilateration LMS Systems is Also Consistent With and Supported by Congressional Objectives to Exclude Public Safety Radio Services from the Broad Scope of Commission Auction Authority.

The exemption of "public safety radio services" in Section 309(j)(2) of the Act and its related legislative history provides an additional basis for declining to adopt competitive bidding selection for non-multilateration LMS licenses in the 902-928 MHZ band.

The advanced ITS services being implemented by the IAG members and others using non-multilateration LMS spectrum should appropriately be categorized under the broad definition of "public safety radio services" intended to be excluded from competitive bidding selection under Section 309(j)(2) of the Act. These are private internal systems licensed to local and state toll

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[15] LMS Report and Order, Para.99.

agencies which are intended to solve traffic congestion and safety problems, to improve operating efficiencies for highway and other transportation infrastructure, and to reduce the environmental impact of increasing travel demand. See also Intermodal Surface Transportation Efficiency Act of 1991, Pub.L.No. 102-240, 6052(b), 105 Stat 1914, 2189 (1991) (ISTEA); H.R. Rep. No. 171(I), 102d Cong., 1st Sess. 11 (1991), reprinted in 1991 U.S. Code Cong. & Admin. News 1537; IVHS America, Strategic Plan for Intelligent Vehicle-Highway Systems III-31-III-35 (May 1992).

The intent of Congress implicit in Section 309(j)(2) can be met by retaining shared use licensing for non-multilateration LMS services. This would preserve the existing licensing rules which have fostered so effectively the widespread implementation of ITS services and effectively exempt the state and local toll agencies from the need to participate in auctions to meet their spectrum needs.

Preserving the continuing ability of local and state toll authorities to meet their essential spectrum needs without the jeopardy, disruption or expense of being subject to competitive bidding procedures is plainly in the public interest. The Commission should foster the public benefits of the unique services which these local and state agencies provide and fulfill the congressional objectives under Section 309(j)(2) by adopting the approach discussed above.[16]

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[16] Alternatively, the Commission might designate the non-multilateration LMS spectrum as a class of frequencies within the LMS service for "public safety radio services" not subject to competitive bidding. The principal use of this class of frequencies for ETC, CVO and other public safety radio services, both existing and projected, is and will continue to be for local and state agencies to serve the needs of millions of motorists. Such a designation would be entirely appropriate under Section 309(j)(2), particularly considering the numerous congressional mandates supporting deployment of advanced ITS services.

5. Imposition of Competitive Bidding Selection for Non-multilateration LMS Services Would Impair or Foreclose the Commission's Goal to Foster the Growth of Intelligent Transportation Services.

The Commission should also decline to impose auction methodologies on the non-multilateration LMS spectrum because of inherent limitations of such methodologies which would impair achievement of the Commission's fundamental goals of developing ITS infrastructure. Under its broad public interest authority "...to protect the public interest in the use of the spectrum...and...to promote the purposes specified in Section 1 of [the] Act,"[17] the Commission reasonably should find, as it did in its LMS Report and Order, shared use licensing provides technical, operational and spectral flexibility which is essential to implement the unique characteristics of advanced ITS services.

The geographic service areas typically used to define service areas for auctionable spectrum do not match the small area coverage requirements of ETC, CVO, traffic monitoring, border crossing and other ITS systems which require separate licensing of highly fragmented geographic service areas. Nor is it fair or reasonable to compel the licensees of such systems to bid for licenses covering typical market-based geographic service areas when only a tiny fraction of the service area involved is needed. Even with partitioning options, such licensing presents serious risks of regulatory pitfalls and of transaction costs which ETC, CVO and other ITS licensees, particularly state and local governmental entities, should not be required to take.

The Commission's competitive bidding procedures also will impair or disrupt current opportunities for technology selection and/or the implementation of co-channel interoperability.

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[17] Section 309(j)(3) of the Act.

Development of a channelization plan in a form customarily required to support efficient auction procedures would make necessary the reopening of complex and potentially contentious technical issues which are avoided under shared use licensing. One risk for the Commission, in the event it is prepared to reopen these issues, is that a channel plan configured to meet the needs of current technologies will foreclose the development of promising new technologies. Another is that a channel plan which relies heavily upon disaggregation to create spectrum for a variety of technologies will end up burdening development of all technologies with significant regulatory and transactional costs. In either case, the public benefits available under shared use licensing from the current spectrum efficient, cost-effective, rapid deployment of advanced ITS technologies will be impaired or lost.

The public interest would also be disserved if local and state governmental entities operating ETC, CVO, traffic monitoring and border crossing systems were required to bid against commercial entities. The current complex combination of federal and state funding to support deployment of ETC, CVO, traffic monitoring and border crossing systems would be disrupted if these entities were required to incur substantial and unpredictable liabilities to pay winning bid amounts to the U.S. Treasury to acquire needed spectrum rights. The Commission's auction procedures are not designed to compensate local and state governments through bidding credits for the unique public benefits these licensees create through the operation of their systems. On the contrary, under current auction procedures state and local governmental entities could actually be disfavored if the Commission were to implement substantial bidding credits benefitting only commercial small business entities. Also the participation of state and local governmental entities in auctions is disadvantaged by a combination of statutory and budgetary restrictions which generally require that they be risk averse

because of the public character of their activities, make decisions based on relatively long term budget cycles, rely upon federal and state funding subject to conditions as to its use and abide by procurement restrictions which do not apply to commercial entities. Under these conditions, shared use licensing should also be retained for non-multilateration LMS spectrum in order to recognize and support the unique mission of state and local governments as licensees of ETC, CVO and other ITS systems using this spectrum.

Conclusion

The Commission adopted shared use licensing for non-multilateration LMS spectrum based on the expected achievement of ambitious goals for the development of ITS infrastructure and on an extensive technical record recognizing the unique architecture and parameters of that infrastructure. By any objective measure the Commission's expectations have been exceeded in the less than four years since shared use licensing for this spectrum was adopted. The Commission has an ample record and statutory authority to find that shared use licensing should be retained for non-multilateration LMS spectrum.

Respectfully submitted,

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August 2, 1999